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AUTHOR	Coleman, Joyce H.
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ABSTRACT

This Child Development Associate (CDA) training module, the seventh in a series of 16, provides an introduction to cognitive development in young children for bilingual/bicultural preschool teacher trainees. Perceptual skills (visual, figure-ground, part-whole, spatial, auditory and tactile discrimination) and cognitive processes and concepts (remembering, discriminating, inferring, analyzing, evaluating and problem solving) are discussed in the first two sections of the module. Influences on cognitive development such as physical maturation, opportunities for learning, intelligence, cognitive style, culture, guidance in learning, personality and language are explored. Strategies for enhancing cognitive abilities in children are recommended; these include asking questions whose answers require the use of cognitive processes and verbally modeling thinking processes. A 6-step technique for teaching new concepts to preschool children is outlined. The module contains a chart of cognitive development from birth to 6 years of age, a perceptual and a cognitive skills check list and guidelines for using the skills check lists. This module focuses on specific behaviors that directly relate to CDA Competency 2. (RH)

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HELPING YOUNG CHILDREN DEVELOP COGNITIVE SKILLS IN A BILINGUAL-MULTICULTURAL ENVIRONMENT

Bilingual/Bicultural

Child Development Associate

Pilot Project

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MODULE VIII

PS010534

Our Lady of the Lake University of San Antonio

San Antonio, Texas

HELPING YOUNG CHILDREN DEVELOP COGNITIVE SKILLS IN A BILINGUAL-MULTICULTURAL ENVIRONMENT

Joyce H. Coleman

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Bilingual/Bicultural CDA Project Staff

Yolanda Ruiz Molina, director

Guadalupe Aguilar

Joyce H. Coleman

Margarita de Celis

Teresa Z. Dent

Sylvia Manjarrez

Carla Martinez

Emma Munguia

Teresa Ruiz Smith

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A C K N O W L E D G E M E N T S

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PREFACE

The development of concepts and thinking skills are necessary if an individual is to function adequately or effectively in his environment. This is a critical area of development for young children. Teachers of pre-school children need to develop skills which enable them to provide an environment that enhances the development of concepts and thinking skills.

This module, "Helping Young Children Develop Cognitive Skills in a Bilingual-Multicultural Environment," was developed because an understanding of how young children develop cognitive skills is so essential for a pre-school teacher, and because observation of pre-school teachers in Day Care and Headstart programs revealed a critical need for further training in this area. Although this module was designed specifically for Headstart and Day Care teachers who participated in a Bilingual/Bicultural Child Development Associate Pilot Training Project at Our Lady of the Lake University of San Antonio, it has been tested and used successfully with other groups of pre-school teachers.

While the content of this module is designed for individualized or self-paced usage, it is strongly recommended that this module be used in conjunction with academic instruction and on-site instruction. The kinds of interactions that occur in group discussions during academic instruction and on-site instruction among instructors and other teachers provide the motivation,

reinforcement and intellectual stimulation that is needed by the teacher. The academic instructors and trainers who developed and tested this module found that learning was facilitated when the module was used as a part of the academic instruction and on-site instruction.

Entry skills needed by trainees to use this module successfully are....

1. The ability to read and comprehend English at the eighth grade level.
2. The ability to follow written instructions.
3. An awareness of how young children develop.
4. An understanding of the cultures of the children.
5. An awareness of the special needs of individual children.
6. The ability to remember and write down what has been seen or heard.

This module focuses on specific behaviors that directly relate to:

COMPETENCE II.- Advance Physical and Intellectual Competence

Functional Area: Cognitive

This module is eighth in the recommended sequence of usage. The sequence of the modules is a result of the identified critical needs of the CDA trainees in the Bilingual/Bicultural CDA Pilot Training Project at Our Lady of the Lake University. The competencies in the modules were addressed in priority, taking into account the critical needs necessary for effective teaching. The sequence has been tested with other groups of teachers and seems to also be effective.

The recommended sequence of usage of the modules is:

Module I	Learning to Observe Young Children in a Bilingual-Multicultural Environment
Module II	Getting To Know and Like Myself Better
Module III	Planning Effectively for Young Children in a Bilingual-Multicultural Environment
Module IV	Creating a Bilingual-Bicultural Learning Environment for Young Children
Module V	Helping Young Children Develop Social Skills in a Bilingual-Multicultural Environment
Module VI	Helping Young Children Develop Motor Skills in a Bilingual-Multicultural Environment
Module VII	Helping Young Children Develop Language Skills in a Bilingual-Multicultural Environment
Module VIII	Helping Young Children Develop Cognitive Skills in a Bilingual-Multicultural Environment
Module IX	Helping Young Children Develop Self-Help Skills in a Bilingual-Multicultural Environment
Module X	Setting the Stage for Effective Learning in a Bilingual-Multicultural Environment
Module XI	Teachers Planning and Working With Parents From a Bilingual-Multicultural Community
Module XII	Juegos - Cuentos - Cantos - Y - Rimas
Module XIII	Artesanias Mexico - Americanas
Module XIV	Teaching Concepts to Young Children Through Cultural Cooking Experiences
Module XV	Supplementary Administrative Responsibilities of Staff Working in a Bilingual-Multicultural Environment
Module XVI	Helping Young Children Develop a Positive Self-Concept

The competencies that a trainer, academic instructor or group facilitator need to use this module effectively with bilingual/bicultural trainees are as follows:

1. Knowledge of early childhood growth and development.
2. Experience teaching pre-school children.
3. Experience working with parents.
4. First-hand knowledge of the cultures of the children and the community where the teachers work.
5. The ability to speak Spanish and English.
6. The ability to explain and demonstrate the content in a manner compatible with the learning styles of the trainees.
7. Experience teaching adults.

P R E - T E S T

1. Define cognitive processes and concepts.

2. Explain how cognitive processes and concepts are developed including important factors that influence their development.

3. List and explain four visual discrimination abilities that young children must develop.

4. List and explain two auditory discrimination abilities that young children must develop.

5. List and explain four cognitive process that are involved in thinking.

6. Administer the perceptual skills checklist to at least eight children.

7. Administer the cognitive skills checklist to at least eight children.

8. Explain how you would use the information obtained by administering the perceptual skills checklist and the cognitive skills checklist in your classroom.

GLOSSARY

An understanding of the following words will help you better understand the content of this module.

Analyzing -- the ability to break down concepts or knowledge into separate parts and to see the relationship between them.

Cognitive Processes -- ways that knowledge is dealt with in the mind e.g., discrimination, inferring.

Concepts -- ideas conceived or understood in the mind; ideas that have evolved from particular instances or experiences.

Discrimination -- the ability to recognize a concept that relates to or plugs into a previously existing concept stored in the mind.

Evaluating -- the ability to make a judgment as to what is good, better, best or most appropriate.

Inferring -- the ability to draw a conclusion or to learn something new by using concepts previously learned.

Logical Memory -- remembering material through meaningful associations; the organization of concepts and relationships among them so that understanding occurs.

Perception -- an ongoing process of receiving and processing information through the sense organs.

Problem Solving -- the ability to attain a goal, solution or conclusion through the use of concepts and information stored in the mind and through the use of thinking skills.

Remembering -- the ability to recall information which has been stored in the mind.

Rote Memory -- remembering certain facts, definitions, and bits of information.

Visual Discrimination -- the ability to distinguish by sight between attitudes or characteristics of one or more objects.

INTRODUCTION

Cognitive development in young children is a very complex process. Because it is so complex, educators find it necessary to identify and deal with specific aspects. This enables them to deal more effectively with the processes and skills that are involved. It is important to remember, however, that while one dimension of development, e.g., cognitive, is being discussed or taught, all other areas of the child's development (e.g., motor, social, and language) are also involved. For example, a simple cognitive task like matching pictures according to function may involve gross and fine motor skills, eye-hand coordination, language and social relationships. A task that appears simple to an adult actually involves many processes and mental operations. All of these are important and must be developed. That is why preschool teachers provide many different kinds of activities and experiences.

In this module cognitive development is explored. The skills involved for the teacher to enhance cognitive development are:

1. developing knowledge of the perceptual aspect of cognitive development.
2. developing knowledge of cognitive processes such as remembering, discriminating, inferring, analyzing, evaluating, and problem solving.
3. developing knowledge of concept development.
4. developing knowledge of factors that influence cognitive development.
5. developing ability to use strategies that enhance the development of concepts and cognitive processes.

6. developing knowledge of the sequence in which certain cognitive skills develop.

7. develop ability to assess children's level of cognitive functioning using a cognitive skills checklist.

PERCEPTUAL DEVELOPMENT

As children interact with their environment, information is taken into the brain through the sense organs, e.g., eyes, ears, nose, mouth, skin. This information results in perceptions which are awarenesses of or recognition of sensory information. As perceptions are integrated with experiences, information, and concepts stored in the brain, they result in new understandings, new concepts, changed or elaborated concepts through the process of cognition. These new or elaborated concepts and the new information can be used to solve problems, make evaluations, classify, make associations, organize in time, etc. These are called mental operations and they are also called cognitive activities. These mental operations enable human beings to function at the higher levels of thinking.

As you can see, cognition (process) and cognitive development (product) includes many things, beginning with perception. Because perception is the foundation upon which cognitive skills are built, special emphasis is given to it in this module.

Perception is not something that just happens once during an activity or experience; it is an ongoing process. As long as a human being is alive and functioning in his environment and the sense organs are functioning normally, he is perceiving. Perceptions usually result in some kind of motor response, e.g., eye movement, hand movement, turning of the head, speech, reflex movement, etc., making it difficult to separate perception from motor activity. In some educational materials you will find the term "perceptual-motor" used because motor development is so closely tied to

perception. Both motor development and perception are interrelated with cognition.

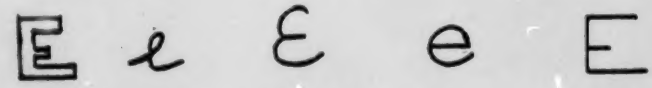
Because perceptual skills are so important to academic skills like reading and writing and because they are so important for the development of higher levels of cognition, special perceptual activities are usually provided in preschool classrooms. You may already be doing some of these. They are commonly called readiness activities. In the next section we will discuss some important perceptual skills.

IMPORTANT PERCEPTUAL SKILLS

As a preschool teacher you have the responsibility of helping children develop their perceptual skills in preparation for higher levels of learning. You may be saying to yourself, "How can I?", "What experiences specifically enhance perception?" Some of the following are important perceptual skills children must develop if they are to be successful learners.

Visual Discrimination.

Visual discrimination is the ability to distinguish by sight between the attributes or characteristics of one or more objects, for example, looking at two objects of different sizes and determining which is larger. Being able to take in information through the eyes and to process this information in the brain are powerful factors in learning. There are certain visual skills that have been found to relate directly to successful academic learning. All of these skills involve the development of concepts and cognitive abilities. These are skills that can be learned through planned learning experiences. Human beings also develop the ability to recognize or determine that two or more things having different visual characteristics can have the same function. For example, each of the following are the letter (e) although they are visually different.



Although the shape, color, size, and material of a cup may vary, the object is still a cup. The function remains the same. Such abilities develop slowly over time. The perception or recognition of similarities and differences is very important to the development of this skill.

While the child is developing perceptual discrimination he is also learning labels for objects, concepts, and various properties that an object can have.

Assignment: Identify a common object. Make a list of all of the properties of that object you can think of.

Check your list with the following attributes (characteristics).

a. color
b. shape
c. size
d. weight
e. length
f. texture
g. material/substance
h. function/purpose
i. number
j. quantity

If you are teaching your children some of these attributes, you are helping them develop visual discrimination, which in turn develops concepts. See how various areas of development are interrelated!

Figure-Ground Discrimination.

Because our environment has so many things in it, we are constantly confronted with many visual images. However, the human brain is organized so that we can pay attention to specific visual images and ignore others. This ability is called figure-ground discrimination. When a child looks at a

group of pictures and then focuses his attention to only one, he is using figure-ground discrimination. The picture which is in focus is the figure and the remaining pictures are the background. You are using figure-ground discrimination when you look up a number in the phone book. The number you focus on is the figure and the remaining symbols on the page are the background.

As children develop figure-ground discrimination they must learn to shift their attention from one visual image to another, to ignore irrelevant images, to concentrate on relevant images, and to scan from left to right. These abilities can be developed or enhanced through training.

Classroom experiences that require the child to (a) color, to match a model design/picture, to find the picture/design/shape that is the same or different, (b) find a hidden picture in a sheet of pictures, (c) outline overlapping pictures with distracting backgrounds, and (d) put puzzles together, all help the child develop figure-ground discrimination. In addition, free play activities such as sand and water play, construction play, and creative arts such as painting and modeling with clay, enhance abilities in figure-ground discrimination.

Part-Whole Discrimination.

Sometimes we are required to recognize visual images when a part of the image is missing. When this happens we must rely on our visual memory. For example, in order to recognize this symbol (E) you must remember what is missing (E). In order to recognize this picture, you must also remember what is missing.

Part-whole discrimination can be taught or further developed through activities in which the child is required to (a) identify a missing part,

(b) select the missing part from a collection of pieces, (c) complete an incomplete picture or letter, and (d) select all of the parts that make a whole. In each activity the child must be able to discriminate all the parts from the whole, to visually organize in space where all of the parts belong, and to visually remember any part that is missing. See how all forms of learning are interrelated. Remember that we only separate elements of learning so that we can talk about them. No elements develop in isolation.

Spatial Discrimination.

As the child begins to learn about his environment he must be able to see where things are in space in relationship to himself and to other things in space. For example, when a child puts a puzzle together he will be successful only if he can see where the pieces go in relation to each other. In order to make a pegboard design to match one already made, the child must be able to see where the colors of the pegs are in relation to each other.

When the child learns to read, he must visually recognize and remember letters as they are placed in a word. The ability to discriminate letters that have the same form but differ in their position in space (e.g., /M - W/ /p - q/ /b - d/ /n - u/) is also spatial discrimination.

A child who has difficulty with spatial discrimination will have difficulty learning to read, understanding graphs and maps, learning systems of measurements, etc.

Classroom experiences which require the child to (a) match or copy identical positions in space (e.g., hands over head), (b) match objects placed in different positions (e.g., on, in, under), (c) follow a maze, (d) match sequences of designs and letters, and (e) discriminate between similar letters

(e.g., b - d), or words (e.g., pot - top), help the child develop effective spatial discrimination skills.

Auditory Discrimination.

As an adult you are able to hear sounds and understand their meaning. You are able to "tune out" sounds that are not important and listen to sounds that are important. You are able to interpret meanings from intonational patterns or expressional patterns, for example, receive and record. Each of these abilities were learned. Because most of us are so visually directed, we sometimes do not develop our listening or auditory skills to their maximum effectiveness.

Children need to develop good listening skills. They need to learn the meaning of what they hear and they need to learn to make the sounds of their language in combinations that reflect meaning. In some families children are not required to develop their auditory skills. They do not play games with sounds. They do not listen for particular kinds of sounds. They are not taught to "tune out" sounds. Sometimes young children are required to listen for and take care of younger siblings so that even while playing they have to listen for their siblings voices. When this is a regular occurrence, these children become easily distracted by the voices of other children. This is apparent in many classrooms where children are easily distracted by the voices and actions of other children at play. When children are easily distracted, they are unable to attend and tune out sounds that are not related to what they are doing.

If a child hears and speaks more than one language, good auditory skills are especially important because sound confusions sometimes exist.

Auditory or listening skills develop through many experiences in listening to and interpreting sounds. There are some specific kinds of listening experiences that you can provide which will help children develop their listening skills.

Identification of sounds. A basic auditory skill that must be developed is the ability to recognize and identify sounds, whether the sound is a car horn blowing or a speech sound.

Some activities that help children develop this skill are:

a. pointing to object or picture of something that makes a sound like the one heard.

b. naming sounds heard.

c. imitating sounds heard.

d. pointing to the location of a sound.

e. putting a mark on the picture of an object that makes a similar sound.

Discrimination. It is sometimes necessary to make a distinction between sounds, i.e., loud and soft, fast and slow, a "b" or a "P", etc. When a child learns to compare pairs of sounds, he is learning to determine whether the sounds are the same or different. The child first learns same and not the same. Later he learns the name different for not the same. These are very important concepts. The ability to discriminate pairs of sounds is a prerequisite to learning to read. Many children who have difficulty reading have not learned to discriminate between sounds adequately.

Some activities that help children develop this skill are:

a. walking fast and slow according to music rhythm.

b. clapping hands fast and slow according to music rhythm.

c. playing musical instruments fast and slow according to music rhythm.

d. making the same pair of sounds the teacher makes (e.g., drum, bells).

e. answering yes/no when a pair of sounds is the same.

f. selecting the box or cylinder that makes the same sounds as a model.

g. selecting the pair of boxes or cylinders that make the same sound.

h. imitating a pattern heard.

i. playing in an active outdoor or indoor environment.

Tactile Discrimination.

We all learn much about our world through the sense of touch. Learning through touching is one of the earliest ways a young child has of learning. Young children need many experiences discriminating and identifying objects through their sense of touch. The ability to do this requires the integration of visual learning, memory skills, and tactile (touching) skills.

Some activities that help children develop tactile skills are:

a. sorting objects that feel the same (e.g., soft, hard, rough, wet, etc), without visual clues.

b. finding pairs of objects that feel the same without visual clues.

c. naming objects by feeling them in a feeling box without seeing them.

d. playing in the housekeeping, blocks, manipulative, science, music, and art centers.

e. engaging in outdoor play, particularly in the sand, water, and construction areas.

COGNITIVE PROCESSES AND CONCEPTS

In this section we will discuss two basic elements of cognitive development or intellectual activity: 1) cognitive processes, and (2) concepts.

Your understanding of how processes and concepts are developed is essential. A competent teacher must be able to effectively guide children's cognitive development.

Cognitive Processes.

Cognitive processes are ways that knowledge is dealt with in the mind. These processes are sometimes called thinking skills, cognitive skills, or intellectual skills. These are the <u>means</u> of thinking.

> Stop for a moment and think about a problem you have, e.g., how are you going to complete all of the work you have to do today. Write down what is happening in your mind as you are thinking.

As you were thinking, you probably were remembering information and experiences stored in your mind. These stored experiences are called concepts. They are the <u>products</u> of cognitive processes. You were organizing concepts to determine ways of solving your problem. You were making judgements as to the best way to solve the problem. Then you concluded that a certain solution would be best.

In solving your problem you used a variety of thinking processes or cognitive skills. You processed or dealt with knowledge or concepts stored in your mind in different ways. This is what thinking is - processing or dealing with knowledge to arrive at conclusions, solutions, new knowledge, etc.

Some specific cognitive or thinking skills that are important to develop in young children are as follows:

Remembering. Remembering is the ability to recall information which has been "stored" in the mind. Without this ability other so-called higher levels of thinking like evaluation and problem solving would be practically impossible. There are two forms of memory, rote and logical. Rote memory is the remembering of material verbatim. This is sometimes called "learning by heart".

> Can you remember a poem or a rhyme that you "learned by heart" as a child? See if you still can say it to yourself.

Rote memory is one way of remembering certain facts, definitions, and bits of information. It is usually considered one of the simplest ways of learning.

Logical memory is the remembering of material through meaningful associations. It involves organization of concepts and relationships among them so that understanding occurs. Through logical memory you would be able to explain the meaning of your poem and paraphrase what it says. Although you might not be able to recite the poem "by heart".

Discriminating. Discriminating is the ability to recognize a concept (e.g., object, person, idea, event) that relates to or plugs into a previously existing concept stored in the mind. Discriminating enables one to recognize relevant concepts and to associate similar attributes or characteristics of concepts. In order to do this, one must be able to discriminate similarities and differences in characteristics or attributes. For example, if you were asked to think of someone that is your

friend and you did, you would be discriminating. You would be recognizing an instance of friendship. You would be associating attributes or characteristics of a specific person. When you ask a child to point to or name a learning center you described,(e.g., a center where you dress up and play store), you are asking him to recognize the specific characteristics and attributes named and associate them with his previous knowledge of the learning centers in the room.

Make a list of examples of discriminating. List things you do as a teacher of young children to discriminate certain children or certain learning activities.

Inferring. Inferring is the ability to draw conclusions or to learn something new by using concepts previously learned. For example, if you are driving along and the car becomes bumpy on one side and the steering is difficult, you can infer that something is wrong with one of the tires or wheel. If you suddenly smell smoke, you can infer that something is burning and you need to check for the source of the fire. These inferences are based upon previous concepts and experiences.

The preschool child makes inferences based upon his concrete experiences and his perceptual understandings. For example, the young boy who asked his father to cut down a tree to make the wind stop blowing was inferring that if the visual signs (perceptual) of the wind blowing were taken away, then the wind would stop blowing. Also, the young child who sees and hears several dogs barking and then concludes that all dogs

bark then conclude that all dogs bark is making an inference. He is also adding an attribute to his concept of "dogness".

Young children make many inferences as they process information to form concepts, clarify concepts, and elaborate concepts. Although the child's inferences may be incorrect in some instances, they reflect his concrete level of understanding and his need to rely on perceptual clues. Only during the middle childhood years will the child be able to make inferences that reflect abstract understanding and that do not rely on perceptual clues.

Make a list of some inferences you have observed young children make. This list is for your personal information.

Analyzing. Analyzing is the ability to break down concepts or knowledge into separate parts and to see the relationships between them. For example, when you break down a child's ability to perform specific motor tasks and then identify where he is in his motor development, you are analyzing the child's motor development.

When a young child is identifying examples of a concept from a group of objects, he must break down the attributes of the objects, discriminate those that are relevant to the concept being identified from those that are irrelevant, and group those objects that have the relevant attributes together for identification of the concept. As the child goes through this process he is analyzing. When a child is confronted with a tall fence that he wants to climb over, he must determine how high the fence is and what object will help him get over it. To determine the appropriate

object, he must decide its height in relation to height of the fence and his own height. As the child goes through this process he too is analyzing.

> List some examples of analyzing that you do.
>
> List examples of children going through the process of analyzing.

Evaluating. Evaluating is the ability to make a judgement as to what is good, better, best or most appropriate. In evaluating, one usually has some sort of criteria in mind. The criteria may be subjective based on feelings or it may be objective based on specific behaviors. For example, when your supervisor makes a judgement about your competence as a teacher using specific behaviors as criteria, this is objective evaluation. If the supervisor makes a judgement about your competence based upon his own feelings or opinions, this is subjective evaluating. Every time you observe a child performing a task and make a judgement about his performance, you are evaluating the child. Sometimes your judgements may be objective and sometimes subjective. Evaluating is a high level thinking skill and includes the thinking processes previously discussed (e.g., memory, identifying, and inferring).

Problem Solving. Problem solving is the ability to attain a goal, solution, or conclusion through the use of concepts and information stored in the mind and through the use of the previously discussed thinking skills which enable one to identify the best of a number of possible alternatives for solving a problem. Some problems can be solved by recalling past experiences and applying old solutions to new problems. Other problems

require planning and logical thinking to solve. Problem solving that is approached logically usually involves several steps.

1. Identification of the problem.
2. Gathering of information/ideas/concepts related to the problem (recalling past experiences).
3. Determining possible strategies for solving the problem.
4. Identifying the best strategy.
5. Testing out the strategy.
6. Making a conclusion about the solution of the problem.

> Identify a problem you need to solve. Solve the problem by using the steps for problem solving. Write out your response for each of the six steps as you attempt to solve the problem.

Although the various cognitive or thinking processes have been identified and discussed separately, in actual practice they do not occur separately or apart from each other. It is difficult to specify the point at which one process begins and another ends. A complete act of problem solving will include all of the processes discussed. A simple act of identifying a similar concept will involve fewer thinking processes. Thinking occurs in different ways and for different purposes. The human mind is a fascinating, very complex organism. Much is yet to be learned about how it operates.

Concepts.

The physical world is made up of many different things. There are millions of things to see, to hear, to touch, to smell, to taste. All of this

stimuli bombards the child daily. Adults have created order for themselves by organizing things into mental groups or categories. These are called concepts. Concepts enable individuals to deal in a manageable way with the many things that bombard them daily. The young child is faced with the task of creating order out of the many stimuli (things) in his environment. He must learn concepts or categories of things to do this. How does the young child do this?

Because children have a limited background of experiences, they do not see things or events in the same way that adults do. They must go through the long and sometimes difficult process of developing concepts and of refining them before they have the same understanding as an adult. For example, a child may learn that dogs have four legs and a tail, and can put dogs into a category of "dogness" in his mind. But, when he first encounters a horse that also has four legs and a tail he has to alter his concept of "dogness" somewhat and develop a new concept of "horseness". When he encounters a dog that does not have a tail, the child has to again alter his understanding of "dogness" (e.g., some dogs do not have tails but most dogs do.). As adults we take these understandings for granted because they are already established concepts in our minds. But to a child these understandings must be learned through experience.

The child very early begins to discover the meaning of objects in his environment by using his senses. He looks and listens, smell, tastes, and touches everything within his grasp. As a result of his sensory exploration, unfamiliar objects become familiar. The more expereinces the child has with different objects and the more often he can experience them, the deeper his

understanding of things will be. These early understandings or concepts are the bases of later more complex concepts.

As the child develops his motor coordination and can manipulate things with greater skill, he discovers qualities or attributes such as softness, roughness, smoothness, bigness, etc. He discovers how things work, what happens when he throws them, bangs them, shakes them, etc. Much information about the environment is learned this way. In fact, manipulating objects is the most important way the young child has to learn about his world.

Think about yourself. Did you learn to cook just by looking at the recipes. No! You had to experience the actual cooking. The child learns by actually handling and playing with things. Learning by doing increases a child's understanding and development of concepts.

As the child develops language, he learns to ask questions. While some questions may be for the purpose of getting attention, most questions are asked because the child wants to know. The "question-asking age" begins around three years of age and continues to be a method of gaining information and learning concepts throughout life.

Before the child learns to read, he learns many concepts and meanings from looking at pictures, from being read to, or from having stories told to him. The simplest story can introduce many new concepts and meanings to the child. Careful observation of pictures, details of objects and persons, bring new insights and understandings. In discussions with adults about what has been read, the child's understanding of concepts are greatly enhanced.

In our age of mass media, many concepts are learned, expanded, or refined through television viewing, movies and printed material like comics. If policemen, doctors, teachers, etc., are depicted in certain ways, the child

comes to think that all policemen, doctors, and teachers have the characteristics seen in the media. Think of the young children you know who believe that Superman and King Kong are for real. They can imitate the identifying characteristics of each. Because many shows have elements of fantasy, children develop some concepts that are unrealistic. Realistic experiences help children refine their understandings.

As concepts are learned, relationships between them become apparent. For example, (1) animals eat but so do humans; (2) airplanes fly and so do birds; (3) cars use gasoline and so do airplanes. Putting concepts together gives us principles. Principles help us to further organize information about the world so that problems can be solved more easily.

Some of the most common concepts dealt with in early childhood programs are as follows:

Space concepts

e.g.,	far - near	over - under
	long - short	beside - between
	high - low	in back of - in front of
	top - bottom	inside - outside
	up - down	right - left
	on - in	

Cause and effect concepts

e.g., Wind causes things to move
Heavy objects sink
Light objects float
Water aids plant growth

Time concepts

e.g., today
yesterday
tomorrow
day
week
month
hour
first
last
next

Weight concepts

e.g., heavy
light

Size concepts

e.g., big - little
thick - thin
large - small
smallest - biggest
middle-size

Color concepts

e.g., red
green
yellow
blue
black
brown
orange
purple

Classification concepts

e.g., community helpers
food vs. non-food
vehicles
animals
family
plants
toys

Number concepts

e.g., few

more

less

sets

counting

one-to-one correspondence

Self-concepts

e.g., self-esteem

sex difference

sex roles

racial differences

social acceptance

age

Moral concepts

e.g., good - bad

right - wrong

Shape concepts

e.g., circle

square

triangle

rectangle

diamond

Concept of emotion (feeling)

e.g., happy

sad

angry

surprised

Make a list of other concepts you feel should be a part of a preschool curriculum.

FACTORS THAT INFLUENCE COGNITIVE DEVELOPMENT

The young child is born into a world that is very confusing and uncertain to him. Throughout the early years he must find some order in and understanding of his environment if he is to function well. The child's understanding of his environment occurs as he develops skills which enable him to take in information from the environment (perception) and process it into something that is meaningful. This coming to know is called cognition. Cognition is an overall, encompassing term for intellectual activity.

> When you think of intellectual activity, what comes to your mind? List your thoughts on a sheet of paper.

You probably listed things like . . . .

thinking
reasoning
remembering
learning new material or ideas
making judgements
solving problems
etc.

These are all "activities" that occur in the brain, i.e., in the mind. To make it easier to understand the "activities" that occur in the mind we shall organize and discuss them under the categories 1) cognitive skills, and 2) concepts. Cognitive skills are the processes (remembering, identifying, discriminating, inferring, analyzing, evaluating) that occur in the mind. These are sometimes called problem solving skills. Concepts are ideas or

understandings of things, people, or events, based upon experience with them. Everything that occurs in the mind (intellectual activity) involves the use of cognitive skills (problem solving skills) and concepts (knowledge). These are the ingredients of intellectual activity. In this section we will discuss some conditions that must be present for cognitive development (intellectual activity) to occur and some factors that influence cognitive development.

In order for children to develop intellectually there are several abilities they must have.

1. The ability to see relationships.

Children, like adults, interpret new experiences in relation to experiences they have already had. In order for concepts to develop they must be able to see relationships between new experiences and previous experiences. For example, if a child has had a pleasant experience at the dentist, he will interpret the next visit to the dentist as one that will be pleasant. If his visits remain pleasant, the child will see a pleasant relationship between his experiences. If his experience with dogs has been unpleasant, he will interpret the next encounter with a dog as one that will be unpleasant. If his experiences with dogs continue to be unpleasant, the child will develop the concept that dogs bring unpleasantness. The concept would be built on the child's experiences with dogs and the unpleasant relationship that he sees among his experiences.

Think about experiences you have had and how they relate to concepts or understandings you have.

Thinking about these experiences will help you see how your experiences have influenced your knowledge and thinking.

2. The ability to understand underlying meanings.

Children usually see things as they are at face value. They do not always see things that are not apparent at first glance. That is why the meaning of cartoons and sayings are not always understood. As adults, we need to remember this so that we understand why children sometimes do not get the point of jokes, sayings, stories with abstract or moral meanings, etc. As children develop cognitive abilities, they gradually learn how to interpret hidden meanings or underlying meanings.

> Can you remember when you had difficulty understanding jokes? interpreting teasing?

3. The ability to reason.

To be able to understand correctly what they see or hear, children must be able to interpret the meaning of the stimuli, recognize how it is like previous experiences and how it is different, and set aside anything that is not important to understanding of the particular concepts. All of this is a mental process that is called reasoning. Every situation involves some aspect of reasoning. The mental process occurs so rapidly in adults that we are not consciously aware that it is happening. Yet children must develop the ability to reason. Because reasoning develops slowly, children often misinterpret what they see, hear, etc.

> Can you think of instances in which your children were not able to see the similarities or differences in a situation?
>
> Why do you think they had difficulty?

When children can see the relationship between experiences, when they can understand hidden or underlying meanings, and when they can reason, they are well on their way to developing concepts and understandings of their world that will help them become functioning individuals. Because these abilities do not develop automatically, and because these abilities develop slowly, children need specific kinds of experiences to facilitate their development. Research shows that children who have had restricted or limited experiences have difficulty developing these abilities.

Because children have different kinds of experiences and their environments are different, all children of the same age will not have the same cognitive ability. There are many factors that influence cognitive development. The following are very important.

1. Physical development of sense organs.

Since information is taken into the brain (through perception) for processing through the sense organs, it is very important that they function properly. When one or more sense organ (eye, ear, nose, mouth, skin) does not function properly, the learning of concepts is made more difficult. For example, if a child cannot hear, his intake of information is greatly restricted. If a child is blind, his intake of information is also restricted.

> Have you ever worked with a child who was blind or deaf, or one who had brain damage? Was their concept development affected? Did they have difficulty discriminating between things? remembering? making associations?

2. Opportunities for learning.

As stated earlier cognitive skills develop as a result of the child's experiences. There is a strong correlation between concept development and experience. The more opportunities the child has, the greater the number of concepts and cognitive skills he will have. In fact, concepts continue to develop and change as long as an individual lives and has new experiences.

> Think about yourself. Can you recall having a new experience with certain foods which altered or changed an understanding or concept that you had?

3. Intelligence.

Although there are some questions about the validity of many intelligence tests, especially as they are used to measure the intelligence of language minority children, children who score high on telligence tests usually have highly developed conceptual abilities and other cognitive abilities such as memory, reasoning, discrimination, generalization, etc.

It is important that you do not make assumptions about a child's intelligence unless he has been evaluated in his primary language. Many language minority children have been classified as "dull" because of poor performances on tests administered in English with their primary language was Spanish, Navajo, etc. Also remember that intelligence tests do not measure all abilities related to intelligence. They are not absolute measures of an individual's intelligence.

4. Cognitive style.

The more we learn about how children learn, the more apparent it is that individuals have different ways of approaching a learning task. This

is sometimes referred to as learning style or cognitive style. For example, some children approach learning in a rather impulsive manner, giving little thought to it. Others may reflect upon the task and approach it in a thoughtful manner. Some children are very task oriented and are concerned only with the task at hand while others are greatly affected by the environment in which the task is to be undertaken. How the child approaches a task affects his understanding of concepts and how he uses other cognitive abilities.

> How do you prefer to learn new information? Read it? Someone tell you? Group discussion? etc.

5. Culture.

Culture determines to a great extent how a child approaches a learning task, his value system, and how he perceives his environment. It affects his interactions with others and the kinds of experiences he has. These in turn influence his concept development and how he organizes and processes information.

> If you were a Navajo do you think you would see your world differently? What concepts do you think you would have that differ from what you have now? Why? In your culture, what are some ways that you view the world that are different from the mainstream culture?

6. Guidance.

Concepts can vary according to the amount of guidance that a child receives. Since our world is so complex and there are so many things to

be learned, a child cannot learn everything he needs to know by simple discovery. He needs to have guidance and some planned experiences if he is to develop all of the cognitive skills and concepts that he needs to be successful. A person's chances of success are greatly enhanced if important concepts and cognitive skills are developed as early as possible.

> Can you recall a concept that you learned through guidance from an adult? Was it easier to learn? Would your learning of the concept have been as complete if you had not had guidance?

7. Personality.

Generally a well adjusted child will have more accurate, more realistic, and less emotionally tied concepts than a poorly adjusted child. Since every individual views the world from his own frame of reference, what he thinks about himself will affect how he sees other things. A poorly adjusted child may see himself in such a bad light that his perception of other things is affected in a negative way. This will naturally affect his development of concepts and how he uses information. (See Self-Concept Module for a better understanding of how a child views himself).

8. Language.

The relationship between language and thought is a matter of some argument by scholars. The names that are used to refer to things, events, people, etc., clearly are reflected in concept development. For example, the Eskimos have names for snow that are descriptive of different kinds of snow and different snow conditions. Therefore, an Eskimo has concepts

related to snow that those who speak English do not have. In English we do not have a word for the relationship between mothers-in-law. Spanish speakers and Yiddish speakers do, so their concept of this relationship differs from that of English speakers. Words enable us to express our thoughts, but our thoughts are somewhat shaped by the words we have to express them.

STRATEGIES FOR ENHANCING COGNITION

So far we have discussed what cognitive processes and concepts are and what factors influence their development. This is important, but teachers must also develop the ability to help young children develop these skills. It is one thing to understand and another thing to transfer that knowledge into meaningful learning experiences for young children. In this section strategies for enhancing the development of cognitive processes and concepts will be discussed.

Cognitive Processes

Young children begin their development of cognitive processes in the home as they interact with people and objects in their environment. Your job as a teacher is to build upon the experiences and cognitive processes that the child brings to school; to provide continuity between the home and the school environment. There are four strategies that you can use to help young children further develop their cognitive processes, i.e., their ability to think. They are:

1. <u>To create a learning environment that enables children to learn through their own activities with teacher as a facilitator</u>.

   This involves setting up classroom learning centers and the outdoor environment in such a way that the children discover ways of using objects, people, situations and concepts to discriminate, infer, analyze, evaluate, and problem solve.

2. <u>To present activities in which the teacher is directing the specific outcomes</u>.

   These activities may be large group, small group, or individual.

3. To ask questions which require children to use cognitive processes to answer them.

Types of questions that help children further develop thinking skills are:

What if . . . . . .?

How did . . . . . .?

Why did . . . . . .?

How come . . . . . .?

Have someone observe you or tape yourself for a period of the day to record how many yes-no questions you ask versus how many questions you ask that require children to think.

4. To verbally model thinking processes.

Children can enhance their thinking by being guided verbally through various thinking processes, either as the adult is experiencing them or as the child is experiencing them. For example, (the adult) "I need to put these materials on this shelf but I can't reach it. How can I do it? I could stand on this chair but it is not high enough. I could give the materials to one of the children to hold and then lift the child up so that he could reach the shelf but the materials might fall and spill. I could borrow the stepladder from the custodian and reach the shelf without spilling the materials. I think the last way would be best."; (the child) "You want to stack the blocks high but they keep falling. You tried moving the blocks to the floor but they still are

falling. You could straighten the blocks. You could place the big blocks on the bottom and the smaller blocks on top. See if you can find a way to keep top blocks from falling."

Some tasks which will help children further develop specific cognitive processes are as follows. To have children . . . . . .

remembering

1. recall a sequence of events told in a story.
2. recall a sequence of events experienced, e.g., a field trip.
3. recall important facts e.g., name, address, phone number, father and mother's name.
4. recall a series of names modeled by the teacher.
5. recall and follow directions.

discriminating

1. sort a group of objects by specified attributes e.g., size, shape, food, non-food, community helpers, etc.
2. name all of the e.g., boys that have a specific attribute, e.g., white tennis shoes.
3. select examples of a specific concept, e.g., sugar, from non-examples.
4. place specified materials in their appropriate learning center.
5. describe the attributes of particular objects.

inferring

1. experiment with objects that float and sink, and then identify whether a specified object will float or sink.

2. experiment with toys that have wheels, and then determine whether another toy without wheels will move the same way.
3. determine what will happen to an uncooked tortilla placed in a cold skillet and then validate by heating the skillet.
4. observe and predict what the outcome will be of watering and fertilizing a small plant.
5. conclude an outcome about a posed situation, e.g., in a story, experiment.

analyzing

1. observe a variety of tropical fish in an aquarium and describe what happens when the light is turned on.
2. observe and describe the effects of food coloring on various roots, e.g., celery, turnips, potatoes.
3. observe and describe how much food a classroom pet eats each day, e.g., gerbil, hamster, rabbit.
4. determine how many small blocks will equal the size of a large block.
5. determine who has grown the most by comparing each child's growth on the classroom growth chart (between the beginning and middle of the year).

evaluating

1. decide whether a behavior of a peer is acceptable in the classroom.
2. decide whether they have responded correctly or incorrectly to a specific task.
3. decide whether they have completed a specified task.

4. decide the learning center they wish to work in and explain why.
5. decide which activities they prefer over others.

problem solving

1. determine various ways of measuring the height of a stack of blocks.
2. determine various ways of fastening two pieces of paper together, e.g., staple, glue, fold ends together, etc.
3. determine the best solution to an interpersonal conflict between children in the class.
4. determine a solution to the problem of not having enough juice glasses for each child in the class.
5. determine a means of getting over an obstacle on the playground.

Concepts

Young children learn concepts by classifying objects, events, persons and ideas by their common attributes (e.g., apples and oranges are both fruits). As a preschool teacher you will teach children many new concepts. You will also help them to clarify concepts and to elaborate concepts. To do this you will need to keep three factors in mind.

1. The attributes to be introduced.

Every object, person, and event is made up of characteristics or attributes (e.g., rough, big, round, heavy, made of clay, etc.). We form concepts by recognizing that two or more objects, etc, share one or more attributes (e.g., a set of objects are all round and blue). In forming a concept we look at objects, persons or events and identify those attributes that are the same about them. Based upon that information, we can

form a new concept, clarify one already formed, or elaborate on one already formed.

For example, if a child sees something flying in the air for the very first time and his mother says "look at the bird. See, the bird has wings so that it can fly in the air". The child thinks to himself, "things that have wings and fly in the air are birds". Later the child sees another bird but one that is a different color and larger. He sorts out the difference in size and color from the previous bird (disregards irrelevant attributes) and recognizes that the bird has wings and is flying in the air (identifies relevant attributes). The child says, "look at the bird". His concept of "birdness" is changing already because he has identified another kind of bird. Later, the mother finds an injured bird on the ground. She picks it up and lets the child touch it. "See, the bird feels soft. It has feathers that make it feel soft. Look at the little bird's wings, its tail, its eyes, its beak. Little birds eat worms and live in nests in trees". As you can see, the child's concept of "birdness" is changing again as new experiences provide new attributes for a forming concept. On another day the child is outside and he sees an airplane flying in the air. "Look, a bird!" Mother says, "No, that's an airplane. Airplanes carry people to other places by flying in the air. See the airplane's wings". The child changes his previously formed understanding that "things that have wings and fly in the air are birds" based upon this experience. Now birds and airplanes have wings and fly in the air. Soon a colorful butterfly flies overhead and the child says "bird?". Mother says, "No, that's a butterfly. Look at the pretty colors on its wings. Now the child can add butterfly to his forming

concept of things that have wings and fly in the air. He is also learning new attributes to disregard in identifying "birdness".

New experiences provide new information and attributes that are processed in the mind to add to or change concepts already formed. Concepts are continually being reshaped by new experiences. It is the teacher's responsibility to provide children with many rich experiences for learning with familiar and novel objects (animate and inanimate).

2. Providing relevant examples.

When teaching new concepts, the examples that are used are very important. If you are teaching the concept of "redness" and your examples of "redness" range from deep orange-red to a redish-pink and you use pink and orange as similar but different examples, the children will have difficulty learning the concept. As adults we already have the concepts we teach formed and it is easy to disregard confusing examples. Children who are learning a concept will have difficulty with confusing examples of the concept being taught.

When preparing to teach a concept select examples that are similar in the attribute(s) that is (are) relevant (e.g., redness) and very different in other attributes (e.g., red ball, red block, red paper, red crayon, red paint, etc.). Select objects that differ in all attributes (e.g., paper clip, blue car, yellow sponge, green plastic cup, white doll shoe, etc.). Select objects that are similar to the concept in most attributes but are not examples of the concept (e.g., orange ball, orange block, deep pink paper, orange crayon). The sequence in which you introduce examples will be outlined later in this section.

3. Giving feedback so that the child knows whether he is right or wrong.

When children are learning a new concept, feedback from an adult facilitates learning. Feedback needs to be given as soon as possible so that the possibility of confusion and interference are reduced. You can give feedback by telling the child whether his response is correct or incorrect. You can ask questions so that the child determines whether he is correct or incorrect. You can set up the environment so that the child discovers for himself what is correct or incorrect. Feedback is most effective when it is accompanied by an explanation of the relevant and irrelevant attributes.

Several steps are recommended for direct teaching concepts. These steps seem to make concept learning. Remember that concepts are also learned through informal activities such as play. The steps are as follows:

1. Present the name of the concept (e.g., sugar) and define its attributes (tastes sweet, you can taste it in kool-aid, you can see it in powdered form, it dissolves in water).
2. Present examples of the concept emphasizing the attributes (show sugar in powdered form, granulated form, and in cubed form. Verify all of the attributes described. Show how the sugar cube can be made into powdered form).
3. Present examples that are different from the concept in all attributes and discuss the differences (e.g., coffee, yellow cornmeal, comino, cinnamon, tea).
4. Present examples of the concept and very different non-examples of the concept. Have the child select the examples of the concept. Define the attributes of all examples (e.g., powdered sugar, cubed

sugar, granulated sugar, red jello, chili powder, ground pepper, ground oregano).

5. Present examples of the concept and similar non-examples of the concept. Have the child select the examples of the concept. Define the attributes of all examples (e.g., powdered sugar, granulated sugar, cubed sugar, salt, flour, rice, unflavored gelatin, creme of tartar, powdered garlic).
6. Conclude by having the child review the concept and its attributes.

SEQUENCE OF COGNITIVE DEVELOPMENT

Study the following chart by age levels to gain a better understanding of when and how young children develop cognitive skills. This information will help you to identify where your children are in their development and to plan appropriate learning experiences for them.

As you study the sequence, notice how the child moves from simple observation and exploration of objects to an understanding of their qualities and their functions. Notice how the child learns simple concepts before abstract ones. Also, notice how the child learns to recognize, identify, and then describe. Development moves from the simple to the complex. As the chart illustrates, motor skills, language skills, self-help skills, and social skills are all an integral part of the development of cognitive processes and skills.

SEQUENCE OF COGNITIVE DEVELOPMENT

0 - 1 yr	1 yr - 2 yrs	2 yrs - 3 yrs	3 yrs - 4 yrs	4 yrs - 5 yrs	5 yrs - 6 yrs
Explores hands	Finds toy when hidden under cover	Anticipates consequences in most situations	Observes small details and discrepancies	Counts three objects with pointing	Counts several objects up to ten
Looks at and grasps objects	Uses trial & error approa-h to imitiate new words, sounds, or movements	Matches colored blocks (red, yellow, green, blue)	Identifies objects through sense of touch	Draws a man with two parts --head and legs	Names primary colors
Watches place where moving object disappeared	Continues exploring cause and effect	Sees things from his/her point of view	Makes simple drawings	Describes & compares experiences & events	Draws a man with head, trunk & limbs
Finds partially hidden toy	Learns how to take simple objects apart & put back together	Deals with simple abstractions regarding the names for classes of objects, an event that took place previously, or an object that is not present	Constructs creatively simple forts, tower, roads, etc. with blocks	Describes similarities & differences of objects and pictures within a category	Understands and explains more difficult concepts related to a unit topic e.g, community helpers
Looks at floor when something falls	Continues examining the qualities of objects	Understands concept of one	Identifies some objects by their use	Describes functions of objects	Describes & compares experiences & events
Tries to imitate facial movements	Practices simple skills on objects, e.g, opening, closing, dropping banging, etc.	Pretends to be doing familiar activities	Selects instances of a concept --food, furniture, clothing	Describes concepts related to knowledge of self & culture	Shows understanding of simple maps & models
Shows interest in small particles		Repeats two digits	Recognizes simple function of objects		Understands & describes concepts related to knowledge of self, culture & natural world
Shows interest in exploring various objects		Matches four shapes (circle, square, cross star)	Describes experiences & events		
Shows interest in cause & effect			Responds to questions about similarities & differences of objects within a category		

E R R A T A

Page 44 Guidelines for Using the Skills Checklist

Add: after first paragraph:

Each checklist is coded to indicate levels of performance of children's chronological ages 0 - 5.0 years of age. This will enable you to determine an appropriate beginning point when administering the checklist. It is not necessary to administer the items below a child's level of performance. The checklist begins at 0 years of age to accomodate teachers who have severely handicapped children in their classroom. The coding level of performance by chronological age is as follows:

Level I is for children 0 - 3.0

Level II is for children 3.0 - 4.0

Level III is for children 4.0 - 5.0

GUIDELINES FOR USING SKILLS CHECKLIST

The following checklist has been designed to help you identify where children are in the development of some specific skills. The cover page has space for identifying information and directions for coding as you administer the checklist. Since you will be checking each child's development, there is space at the top of the checklist for each child's name in your classroom.

Some important guides for administering the checklist are:

1. Observe and record each item on the checklist as you work with children individually, in a small group or in a large group as appropriate to the task being observed.
2. Divide up responsibility for observing and recording items on the checklist so that the teacher and teacher aide do not duplicate the observation and recording of the same items.
3. Identify and plan activities for those items on the checklist that require a formal situation in order for the task to be effectively observed, e.g., pointing to an object that matches a sound heard.
4. Identify those tasks on the checklist that can be observed and recorded informally throughout the day as children participate in various activities. Record the children's performance of those tasks as you observe them.
5. Use this checklist throughout the year to monitor each child's progress. Checking children's development is an on-going process.
6. Use the information acquired through the administration of the checklist to plan individual and group learning experiences for the children in your classroom. (See "Planning Effectively for Young Children in a Bilingual-Multicultural Environment," module III.)

PERCEPTUAL SKILLS CHECKLIST

Teacher: _____

Center: _____

Class: _____

MARKING CODE:

\+ If the child does the task

\- If the child is learning to do the task

0 If the child cannot do the task

*Adapted from draft developed by Yolanda R. Molina

PERCEPTUAL SKILLS CHECKLIST

SKILL	CHILD'S NAME																		
A. VISUAL DISCRIMINATION																			
LEVEL I																			
1. Matches identical objects.																			
2. Matches objects that differ in color (e.g., a blue ball and a red ball.)																			
3. Matches objects to a similar picture of the object (e.g., a cup to a picture of a cup.)																			
4. Works a four piece puzzle.																			
5. Points to the tall (short) person from the two persons that have been identified by the teacher as being tall and short.																			
6. Selects a tall (short) person from a group of two or more persons that vary in size.																			
LEVEL II																			
1. Matches identical geometric forms of the same color.																			
2. Matches identical geometric forms that differ in color.																			
3. Matches a geometric form to a picture of that form.																			

* Adapted from draft developed by Yolanda R. Molina

PERCEPTUAL SKILLS CHECKLIST

SKILL	CHILD'S NAME																		
A. VISUAL DISCRIMINATION																			
LEVEL II (cont'd)																			
4. Matches objects by size (e.g., big spoon to big spoon; little spoon to little spoon.)																			
5. Recognizes an incomplete picture (part of the picture is missing.)																			
6. Works an eight piece puzzle.																			
LEVEL III																			
1. Matches pictures by size (e.g., picture of big hat to picture of big hat; picture of small hat to picture of small hat.)																			
2. Places objects in order by size (e.g., big ball, medium size ball, small ball.)																			
3. Places cutouts/pictures in order by size (e.g., papa bear, mama bear, baby bear.)																			
4. Works puzzles of twelve or more pieces.																			

* Adapted from draft developed by Yolanda R. Molina.

PERCEPTUAL SKILLS CHECKLIST

SKILL	CHILD'S NAME																			
B. AUDITORY DISCRIMINATION																				
LEVEL I																				
1. Points to location of a sound heard.																				
2. Points to object or picture of object that makes a sound heard (e.g., picture of drum when a drum is struck out of view.)																				
3. Follows one direction correctly (e.g., "Bring me the book from the table.")																				
LEVEL II and III																				
1. Names most environment sounds heard (e.g., horn blowing, brakes screeching, airplane, ambulance siren, etc.)																				
2. Selects two sound cylinders that make the same sound.																				
3. Answers yes or no correctly when asked if two sounds heard were the same or different.																				
4. Walks/claps fast when music tempo is fast and slow when music tempo is slow.																				
5. Follows two directions correctly (e.g., "Put the car on the shelf and the book on the table.")																				
C. TACTILE DISCRIMINATION																				
LEVEL II and III																				
1. Matches objects that feel the same without any visual clues.																				
2. Names objects after feeling them without any visual clues.																				

* Adapted from draft developed by Yolanda R. Molina

COGNITIVE SKILLS CHECKLIST

Teacher: _____

Center: _____

Class: _____

MARKING CODE:

\+ If the child does the task

\- If the child is learning to do the task

0 If the child cannot do the task

*Adapted from draft developed by Yolanda R. Molina

COGNITIVE SKILLS CHECKLIST

SKILL	CHILD'S NAME																
A. REMEMBERING																	
LEVEL I																	
1. Selects two objects named by the teacher from a group of five objects.																	
2. Retells a simple story.																	
LEVEL II																	
1. Retells a story putting events in their proper sequence.																	
2. Selects three objects named by the teacher from a group of six objects.																	
3. Names three of five pictures shown after they are removed from view.																	
4. Repeats a sequence of three or four related words (e.g., apple, orange, grape, lemon.)																	
5. Reproduces a simple bead pattern from memory (e.g., red, blue, red, blue.)																	
LEVEL III																	
1. Repeats a sequence of three or four unrelated words (e.g., bike, nut, dress.)																	
2. Names four of seven pictures shown after they are removed from view.																	

* Adapted from draft developed by Yolanda R. Molina

COGNITIVE SKILLS CHECKLIST

SKILL	CHILD'S NAME
B. DISCRIMINATING	
LEVEL I	
1. Sorts a set of objects of identical shape and size by color.	
2. Sorts a set of objects of identical size and color by shape.	
LEVEL II	
1. Sorts a set of objects of identical color and shape by size.	
2. Sorts a set of objects by class (e.g., all food; all vehicles.)	
3. Points to the person that is far (near) from the two persons that have been identified by the teacher as being far and near.	
4. Selects a person that is far or near from a group of two or more persons.	
5. Points to the book that is high on the shelf from the two books that have been identified by the teacher as being high and low.	
6. Selects an object (e.g., a book) that is high (low) from a group of two or more objects placed at various heights.	

COGNITIVE SKILLS CHECKLIST

SKILL	CHILD'S NAME																	
B. DISCRIMINATING																		
LEVEL II and III 1. Sorts a set of objects by two attributes (e.g., big, blue things.)																		
2. Sequences cards in correct order of events after hearing and seeing the event in order.																		
3. Repeats a simple story after it has been read.																		
4. Selects all the pictures of things that are high from the set of pictures shown. (NOTE: Any of the other spatial concepts can be used in place of high/low concepts.)																		
LEVEL III 1. Given a set of objects, sorts them in different manners (e.g., sorts first by color, then the same object by size, etc.)																		
2. Selects an object from a set that fits the description given by the teacher (e.g., big red things that you ride on.)																		
3. Sequences a set of cards in correct order of events (not modeled before.)																		
4. Orally sequences a set of events (e.g., a family outing.)																		

COGNITIVE SKILLS CHECKLIST

SKILL	CHILD'S NAME
B. DISCRIMINATING	
LEVEL III (cont'd) 5. Identifies one of the persons in a picture as being tall and the other as being short when, shown a picture of two persons exactly the same (same sex, same standing position, same clothing, etc.), except for their height ---one is tall and one is short--- and asked by the teacher; "How are these people different?" (NOTE: Any of the other spatial concepts can be used in place of short/tall.)	
C. INFERRING	
LEVEL II and III 1. Experiments with objects that float and sink and then identifies whether a specified object will float or sink.	
2. Determines what will happen to an uncooked tortilla placed in a cold skillet.	
3. Concludes an outcome about a posed situation (e.g., in a story).	
D. ANALYZING	
LEVEL II and III 1. Observes and describes the effects of food coloring on various roots (e.g., celery, turnips, potatoes).	
2. Determines how many blocks will equal the size of a large block.	
3. Observes and describes how much food a classroom pet eats each day.	

COGNITIVE SKILLS CHECKLIST

SKILL	CHILD'S NAME																			
F. EVALUATING																				
LEVEL II and III																				
1. Decides whether a specified task has been completed (e.g, cleaning up a learning center).																				
2. Decides the learning center that is preferred, explaining why.																				
3. Decides whether a response to a task is correct or incorrect.																				
I. PROBLEM SOLVING																				
LEVEL I																				
1. Makes a value judgment by labeling a situation good/bad (e.g., teacher asks child: "Is it good to hit your little friend?)																				
2. Makes a moral judgement by stating whether a situation is right/wrong (e.g., teacher asks: "Is it right or wrong to write on the wall?)																				
LEVEL I and II																				
1. Looks for an article in a systematic way (e.g., When looking for a lost toy, he looks at one area at a time and does not go over that same area again).																				
2. States a possible cause for a situation seen in a picture (e.g., picture of a crying child).																				

COGNITIVE SKILLS CHECKLIST

SKILL	CHILD'S NAME
F. PROBLEM SOLVING	
LEVEL II and III	
1. Names possible logical areas where a misplaced item could be (e.g., teacher says: "I can't find the ball, where could I have placed it?" and he answers: "In the closet or outside.")	
2. Evaluates his work (e.g., the child produces a bead pattern by memory and checks the pattern card to see if he is correct.)	
3. Makes a value judgement by stating one of his own good/bad behaviors (e.g., teacher asks: "Tell me somethings you do that are good/bad.)	
4. Makes a moral judgment by stating whether a situation posed in a picture is right/wrong (e.g., teacher asks: "What will happen when the mother finds the little boy writing on the wall?")	
LEVEL III	
1. States more than one possible solution to a stated problem.	
2. States more than one possible outcome for a situation posed in a picture (e.g., a picture of a child with a broken toy.)	
3. Selects one of two possible solutions for a problem and gives a reason for his selection.	

POST-TEST

1. Define cognitive processes and concepts.

2. Explain how cognitive processes and concepts are developed including important factors that influence their development.

3. List and explain four visual discrimination abilities that young children must develop.

4. List and explain two auditory discrimination abilities that young children must develop.

5. List and explain four cognitive process that are involved in thinking.

6. Administer the perceptual skills checklist to at least eight children.

7. Administer the cognitive skills checklist to at least eight children.

8. Explain how your would use the information obtained by administering the perceptual skills checklist and the cognitive skills checklist in your classroom.

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